



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/422,347	10/21/1999	DIRK OOMS	Q056325	5427

7590 05/05/2005

SUGHRUE MION ZINN MACPEAK & SEAS PLLC
2100 PENNSYLVANIA AVE NW
WASHINGTON, DC 200373202

EXAMINER

LEVITAN, DMITRY

ART UNIT PAPER NUMBER

2662

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/422,347	OOMS ET AL.	
	Examiner	Art Unit	
	Dmitry Levitan	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/14/05</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2662

Amendment, filed 01/14/05, has been entered. Claims 1-7,9 and 11-20 remain pending.

Specification

In light of Applicant's amendment the objection to the specification has been withdrawn.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the detector that detects a common prefix in at least two different final destination addresses from a list of destination addresses, generator that generates a suffix list for final destination addresses and an adder that adds said suffix list to said common prefix list to create a compound destination address, an addressing device to address routing table memory via compound address having the same format as destination compound address, the generator and adder iteratively compressing the list of destination addresses must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the

Art Unit: 2662

renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 9 and 17-20 are rejected under 35 U.S.C. 103 as being unpatentable over Boivie (US 6,502,140).

4. Regarding claims 1 and 7, Boivie teaches a device and method for compressing a list of destination addresses for a multicast message, wherein each destination address in said list represents a different destination host (source node A sends multicast transmission to destination nodes as shown on Fig. 1 and 3:2-10), comprising:
Detecting a common prefix in at least two different final destination addresses from said list of destination addresses (detecting R1R2 as common prefix for final addresses R1R2C and R1R2D in step 1 4:30-46),

Art Unit: 2662

Generating a suffix list for final destination addresses that are detected to have a common prefix, wherein said suffix list represents the non identical portions of said destination addresses detected to have a common prefix (combining last portions of the final destination addresses R1R2C and R1R2D into (C D) in step 2 4:50-55), and
Adding said suffix list to said common prefix to create a compound destination address consisting of compressed final destination addresses (second part of step 2, producing a single element R1R2(CD) 4:55-58, third final destination R1B was dropped for clarity).

Claims 1 and 7 and Boivie specify the same technique of compressing destination addresses to reduce the traffic in a process of multicasting data packets. The only difference between the claims and Bovie lies in the type of addressing used, in the claims the final destination addresses do not include references to the intermediate node, while Bovie does. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the compression technique of Bovie with any addressing scheme because it would have the same benefit, reduction of traffic.

In addition regarding claim 1, Boivie teaches implementing the disclosed above method in a device (node unit 100 on Fig. 2 as a programmed computer apparatus 6:48-62).

5. Regarding claims 2, 3 and 4, Boivie teaches the destination address comprising IP addresses (the network is operated under IP 2:26-34) and other previously compressed compound destination addresses (previously compressed R1R2(CD) address on 4:55 is combined into a single element on 4:56-58).

Art Unit: 2662

6. Regarding claims 5 and 6, Boivie teaches the device incorporated into a host or a router of communication network with multicast capabilities (host computers or routers using the device on Fig. 1 and 2:51-61 with multicast capabilities 2:62-67).

7. Regarding claim 19, Boivie teaches a host generating multicast packets (host computer 2:51-67), and a router (routers 2:51-67) both comprising the devices operating as disclosed in claim 1 rejection above.

8. Regarding claim 20, Boivie teaches a router comprising a compression device with generating suffixes and adding them to prefixes as described above in the claim 1 rejection, implemented as a programmed computer apparatus.

9. Regarding claim 9, Boivie teaches a router comprising a routing table memory (inherently part of the system, because all routers comprise a routing table memory) and an addressing device to address the routing table memory via compound address having the same format as said compound destination address (inherently part of the system, because the router addressing device has to address the memory via compound address format, as shown in example 4:30-60, incorporated through the system).

10. Regarding claims 17 and 18, Boivie teaches iteratively compressing/generating suffix, prefix and adding them, for the list of final destinations (performing steps 1 and 2 for three destinations B, C and D on 4:34-60).

11. Regarding claims 11-16, Boivie substantially teaches all the limitations of claims 1 and 7. Boivie does not teach detecting octet, nibble and bit aligned prefixes.

Official notice is taken that detecting octet, nibble and bit aligned prefixes is well known in the art to detect addresses with different lengths.

Art Unit: 2662

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add detecting octet, nibble or bit aligned prefixes to the system of Boivie to improve the system operation with addresses with different lengths.

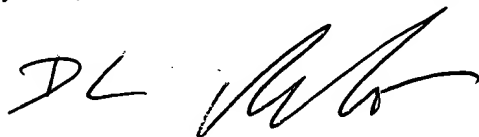
Response to Arguments

12. Applicant's arguments with respect to claim 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
Patent Examiner.

4/19/05